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Recommended Citation

Yeh, Ron Chuen; Chen, Yi-Cheng; Lin, Li-Min; and Wu, Jen-Her, "FACTORS AFFECTING CONSUMERS' VALUE CREATION IN ONLINE GROUP BUYING" (2014). *PACIS 2014 Proceedings*. 87.

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FACTORS AFFECTING CONSUMERS' VALUE CREATION IN ONLINE GROUP BUYING

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Abstract

Drawing upon the social capital theory (SCT), this study integrates social capital factors with the perspectives of consumer hedonic participation and platform capability of online group buying sites to explore how they affect consumer value creation toward online group buying (OGB). Data from 663 valid responses were obtained using an online large-scale survey. The conceptual framework was validated by using the partial least squares (PLS) technique. The research findings show that 1) the consumers' value created by engaging in OGB is contributed collectively by social capital factors (i.e., social interaction tie, trust, and shared value), hedonic participation and OGB platform capabilities; 2) the social capital enhances consumers' value creation by increasing their hedonic participation; 3) The OGB platform capabilities has a positive impact on social capital, hedonic participation and value creation. The proposed research model explains 64.1 % of variance for consumers' value creation, 52.6 % of variance for their hedonic participation and 46.1% of variance for social capital in OGB. Our findings provide insights into how OGB administrators can govern OGB initiatives to expand OGB members' social capital and OGB platform capability, thereby leading to effective consumer value creation.

Keywords: online group buying, social capital, hedonic participation, value creation, platform capability

1 INTRODUCTION

In today's Internet era, the booming of the e-commerce has driven the rapid development of emerging business applications and created noteworthy market opportunities that are characterized by a lack of time and spatial limits (Bharadwaj, et al., 2013; Shiau & Luo, 2012). Various new styles of business models in e-commerce have changed our daily lives significantly. Numerous modern firms have changed their business operation paradigm from brick-and-mortar to click-and-mortar because of the opportunities created by an online business model (Zott et al., 2011). The traditional consumption styles have also changed. Specifically, the popular trend in online group buying (OGB) experienced significant growth in recent years. The OGB websites proffer a social networking platform in which people with the same interests in buying some sorts of products/services can interact to share information and knowledge, and engage in social interactions (Pelaez et al., 2013; Shiau & Luo, 2012). It is the nature of social commerce and the set of information and resources embedded within the specific interpersonal network that sustains such group shopping sites (Huang & Benyoucef, 2013). This new type of web-based consumption has become popular with the emergence of OGB sites such as ihergo in Taiwan from 2007, Groupon in the US from 2008 and Juhuasuan in Chian from 2010.

Drawing on the advantages that online consumers enjoy receiving significant discounts on premium products, OGB is getting more and more popular and successful in today's e-commerce environment (Edelman et al., 2011). Incentives of money saving are more likely to characterize the major concern of consumers' engaging in online group buying (Kauffman et al., 2010). Yet, given the complicated ties of social networks and rapid evolutionary e-commerce environments, the factors affecting consumers to hedonically engaging in online buying groups are becoming a critical and multi-dimensional research topic. OGB is a new business model that has not been fully investigated. Prior research has focused on the issues regarding OGB shoppers' behavioural intention and the functionality and usage of group buying systems (Shiau & Luo, 2012). However, few studies have explored the impacts of social capital, platform capability on consumer value creation in the OGB context. The critical factors related to consumer sociological factors and relational resources exchanging and combining mechanisms have not been addressed by previous studies. The related social capital factors, platform capability and consumer hedonic consumption behaviors are crucial for OGB marketers seeking to create their business values. The phenomena are worthy of research efforts, given the potentially significant market gains offered by this sort of new business model.

Based upon the social capital theory (SCT), this study identifies the critical antecedents in the OGB context by incorporating social capital factors and OGB capability with the perspective of consumers' hedonic participation and value creation. These factors are identified as critical antecedents influencing consumers' hedonic participation and may further affect the value creation of consumers in the OGB environment. A key question of interest in this study is to comprehend how will the identified crucial latent variables influence OGB consumers' value creation. Consequently, our research objectives are to examine: (1) how OGB members' value creation is influenced by the social capital factors embedded in an OGB community and mediated by their hedonic participation; (2) how the path-dependent aspects of social capital, hedonic participation and value creation are promoted by OGB platform capability.

2 LITERATURE REVIEW

2.1 Social Capital Theory and Social Capital in Online Group Buying

The concept of the social capital theory (SCT) was originally used to describe the relational resources, embedded in social interaction ties that are helpful for an individual's development in a social network. The theory states that social capital, the relationship network possessed by an individual or a

social network and the set of resources embedded within it, strongly influence the extent to which interpersonal resources exchanging and combining occurs (Chiu et al., 2006; Nahapiet & Ghoshal, 1998). Standing at the core of SCT is that interpersonal relationships in a social network can be creative resources of the social capital. Such a capital facilitates coordination and cooperation for mutual benefit (Coleman, 1988; Putnam, 2000). Coleman (1990) indicated that certain values collectively held in a society can be a kind of social capital that benefits between individual members of a social network. Prior research has applied this concept to a broader range of social phenomena, including relations within and beyond the firm, the organization-market interface, and public life in contemporary societies (Putnam, 2000; Tsai & Ghoshal, 1998). Such relational factor recognizes that social capital is developed and fostered when individuals believe that their actions will be appropriately reciprocated, and that individuals will meet their expected obligations.

As many studies have pointed out social capital is a productive resource, facilitating actions that range from an individual's occupational attainment to a firm's business operations (Tsai & Ghoshal, 1998). But while having a network of individuals is a critical part in developing social capital, equally important are the interpersonal dynamics between individuals in the network. It is the interactions that occur between individuals in the network that lead to the formation of social capital (Lesser, 2000). Nahapiet & Ghoshal (1998) defined social capital as the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by a social unit. Prior research has also conceptualized social capital as a set of social resources embedded in relationships (Chiu et al., 2006). Other previous literature, however, has adopted a broader perspective of social capital, including not only social relationships, but also the values associated with them (Tsai & Ghoshal, 1998). As an example, in this study, OGB communities are a kind of online social community in which members, with common values, trust and interact with each other to share information and knowledge, exchange and combine relational resources and hedonically engage in online group consuming through social interactions. It is the nature of social interactions and the set of resources embedded within the network that sustains virtual group buying communities.

Drawing on a comprehensive review of previous work on social capital, Nahapiet and Ghoshal (1997) called these different aspects of social context the structural, the relational, and the cognitive dimensions of social capital. Through close social interactions, individuals are able to increase the depth, breadth, and efficiency of shared resources exchange and combination to create new value (Tsai & Ghoshal, 1998). By extending and elaborating Nahapiet and Ghoshal's framework, Tsai and Ghoshal (1998) empirically justified how social capital facilitates resource exchange and production innovative values within the organization. An OGB community is not the same as a traditional e-commerce shopping site, since there are frequent social interactions among members in the OGB context. Consumers participating in OGB communities are different from general Internet users in that virtual community members are brought together by shared interests, needs, or values. However, whether the impact of social capitals on resources exchanging and combining could be generalized to virtual communities are not yet comprehensible. Henceforth, viewed broadly, the concept of social capital as proposed by Tasi & Ghoshal that encompasses many aspects of a social context, such as social interaction ties, trusting relations, and value systems to facilitate individual actions located within a networked context can be well applied in our research context of this current study.

As a concept rooted in the structure and content of social relationships, in our research context (i.e. an OGB environment), social capital can be conceptualized and operationally defined as the the aggregate of the actual or potential relational resources, embedded in cross-cutting interpersonal ties that strongly influence the extent to which relational resources (e.g., information, knowledge, affections, etc.) exchange and combination occurs in an OGB community. It can be characterized as three distinct dimensions: structural (the overarching sort of social interaction ties between OGB members), relational (trust of social relationships OGB consumers have developed with each other through social interactions), and cognitive (those resources providing shared values of meaning among them). Social interaction ties, a manifestation of the structural dimension of social capital, is defined as the strength of the relationships, the amount of time spent, and communication frequency among members of virtual. Trust, a manifestation of the relational dimension of social capital, is defined as an OGB member's expectation that members in the group-buying shopping sites will

follow a generally accepted set of values, norms, and principles (Chiu et al., 2012; Hsu & Hsu, 2012). And the shared value, a manifestation of the cognitive dimension of social capital, is defined as an OGB member's common understanding and deepening salient aspects of one's value perception through social interactions. Such interactions may help one to form, clearly define and elaborate on common preferences, tastes, and values. In the OGB context, it may facilitate an OGB member interact with others so as to obtain access to social resources and facilitate the attainment of one's future goals (McKenna & Bargh, 1999; Tuten & Ashley, 2011).

2.2 Hedonic Participation in Online Group Buying

In an online shopping environment, consumer attitude may simultaneously contain both hedonic and utilitarian components. The consuming behaviours can thus be divided into two sorts of participation, hedonic and utilitarian (Hirschman & Holbrook, 1982; Su et al., 2013). Generally, online consumers with hedonic attitude may pay more attention to pleasure, fun, and feeling, and relaxation on enjoying the fun, entertainment and delighted experience in the online shopping process; while the others with utilitarian attitude may emphasize the practical benefits, utilities and functions brought by OGB consumption. Prior literature has showed that the higher the consumers evaluate the hedonic attitude and the more they focus on the pleasure brought by online consumption, the stronger the tendency of the consumers' network consumption will be. In contrast, the more consumers focus on utilitarian attribute of network consumption, the tendency of their network consumption will be weaker (Kim & Eastin, 2011; Su et al., 2013). OGB consumers who hold hedonic attitude pay more attention to pleasure, fun, and feeling, and lay stress on enjoying the fun and entertainment, focusing on the process of network consumption as well as the enjoyment and subjective experience in the process (Su et al., 2013). OGB consumption can thus bring the majority of consumers with enjoyment and fun, so it is appropriate and meaningful to construct a hedonic dimension of leisure consumer participation (Tsai & Pai, 2013). In this study, we focus on the hedonic participation of OGB shoppers, since the feature hedonic participation in OGB tends to immerse online consumers with the sensations of social contact, shopping enjoyment, and adventure.

Compared with the traditional brick-and-mortar stores, a click-and-mortar OGB community can take the advantage to utilize the components and service mechanisms provided by its platform to immerse consumers by making beautiful pictures, adding relaxing and soothing music, and using emotional appeal of promotion strategy. In this way, it can arise some kind of illusory sensations making consumers experience the fun of sensuality enjoy, social contact, bargaining and adventure. OGB members may immerse themselves in the hedonic cyber shopping space. However, exploration of consumers' hedonic participation in an OGB environment requires the development of appropriate measures of imaginal-emotive effort and capacity. Yet, in contrast to the progress that has been made in measuring cognitive effort and capacity, the measurement of imaginal-emotive effort and capacity remains largely unexplored. Therefore, based upon the prior literature, we defined hedonic participation as a mix of participation behaviours with resources exchange and relational assets combination featured by consumers' illusory senses of the multisensory, fantasy and emotive aspects regarding products and services while participating in OGB activities. Consumption in OGB websites possesses more hedonic property and it can bring such fun to consumers as sensory enjoyment, social intercourse, bargaining, and adventure. The OGB members can liberally search the information of products/services, purchase products/services, and exchange the information, comments, opinions or experiences regarding products pleasantly. Besides, they may develop an affective friendship network with other members and graciously help other members solve the related problems regarding product services on the group-buying sites to hedonically participate.

In an OGB context, social interaction ties weave intensive and complicated channels for information and resource flows. Through social interactions, an OGB member can gain access to other members' resources. Such access allows OGB members to go across various sorts of information and resources embedded in the OGB sites to find what they truly need. In addition, when two OGB members trust each other, they become more willing to share their resources without worrying that they will be taken advantage of by the other party. Trust has been viewed as a critical antecedent of cooperation (Ring & Van de Ven, 1994), which implies the cooperative exchange or combination of resources, among

OGB members, may emerge when trust exists. As trusting relationships develop inside a network, OGB members build up mutual trust that may become important information for other OGB members in the network. Likewise, OGB members with the same value perceptions about how to interact with each other, they can avoid possible misunderstandings in their communications and have more opportunities to easily communicate their ideas or exchange resources. As a result, OGB members who share the same value will be more likely to become partners hedonic participating in OGB with illusory senses of the multisensory, fantasy and emotive feelings. We can thus view social capital as a critical antecedent that helps OGB members through convenient exchanging and combining channels of information and resource to hedonically participate in the OGB context. This leads to the following hypothesis.

H1: Social capital is positively associated with OGB members' hedonic participation.

2.3 Consumer Value Creation in Online Group Buying

The participation in the context of OGB are expected to generate the three types of benefits (i.e., purposive, interpersonal, and entertainment values) that are relative to the hedonic participation associated with the deal (Sarkar, 2011). From a consumer's perspective, OGB deals are likely to be perceived differently from other types of online shopping because of the aspect of social interaction and pre-payment for the deal, increasing consumer's commitment to explore the business's offerings. In this study, value creation is defined as a OGB consumer's values or benefits derived from the deals of hedonic consumption in the OGB shopping site, that are likely to be affected by perceptions that the deal is acknowledged as a good deal by a critical mass and by perceptions that the offer is worth exploring. There are three dimensions of value creation including purposive, interpersonal and entertainment values identified in this study. Purposive value is defined as the value created by accomplishing some pre-determined instrumental purpose through OGB community participation. Interpersonal value is defined as the social benefits generated by establishing and maintaining contact with other people such as social support, friendship, and intimacy by gaining acceptance and approval of other members, and the enhancement of one's social status within the community on account of one's contributions to it (Mimouni-Chaabane & Volle (2010). Entertainment value refers to the value derived from fun and relaxation through playing or otherwise interacting with others. Studies have shown that many participants do so for entertainment through exploring different fictional identities.

In general, the more an OGB consumer perceives a deal with high monetary worth relative to the price paid, the more pleasure the consumer will associate with the deal. OGB consumers can get products or services information easily, resolve uncertainties regarding products/services buying, get products/services with low price or great discount through the group buying site (Anand & Aron, 2003; Wei et al., 2011). Hedonic benefits, characterized in the context of OGB as the exploratory benefits associated with satisfying curiosity about the products of the deal, are also compared to the costs associated with the deal (Mimouni-Chaabane & Volle, 2010). OGB consumers can get hedonic experience and enjoy the pleasant and relaxed emotion from group buying (Chu & Lu, 2007). When bored, they can pass the time away from group buying; or even with the enthusiasm of eyeball catching group buying sites to pick them up. Besides, interpersonal value, characterized in the context of OGB as the social approval by taking advantage of the deal, can be compared to the cost of the deal. Besides, in an OGB site, sellers can require a critical mass to buy the deal in order for the deal to be offered, encourages consumers to communicate with others about deals through their social networks, which increases the visibility of their consumption. For buyers, they can develop friendships with other people; obtain sufficient social supports or helps from other group buying members. Also, they can keep in touch with and gain acceptance and approval of other members impress other group buying members. Consumers may also make use of the collective shopping deal to share their ideas, opinions, suggestions and experiences with members of their social networks (Alves, 2010). The resulting perception of interpersonal value is expected to increase pleasure associated with the deal, resulting in a positive relationship with transaction enjoyment value. In addition to informing consumers of a merchant's existence, group buying deals encourage consumers to try goods they might otherwise have ignored (Edelman et al., 2011; Dholakia, 2010). The resulting perception of entertainment value is expected to correlate consumer pleasure associated with the deal.

Based on Tsai & Ghoshal's (1998) model of social capital and value creation, innovative values can be created through novel deployments of resources embedded within the network that sustains virtual communities, in particular through new manner of exchanging and combining resources. In that sense, to create innovative values to attract more consumers, today's OGB sites have provided family forums, message boards, rating systems or short message services to facilitate members to exchange their knowledge and information and combine new or existing resources in new ways. Several researchers have claimed that innovation requires diverse resource inputs and combinative capacities (Tsai & Ghoshal, 1998). Thus, it is reasonable to assume that the hedonic participation processes of resource exchange and combination among OGB members may be associated with OGB innovation that may serve as a predictor for value creation. Moreover, Tsai & Ghoshal's model and empirical results also implied that inter-unit resource exchange and combination mediated the influence of social capital on value creation. While social capital itself can not directly create value unless it actually facilitates the OGB members hedonically participate in the processes of resource exchange and combination and make deals in the OGB activities. It is reasonable, therefore, to expect that the influence of social capital on OGB members' value creation may be mediated by their hedonic participation in OGB. Hence, we proposed:

H2: Hedonic participation is positively associated with OGB members' value creation.

H3: Hedonic participation mediates the positive effect of social capital on OGB members' value creation.

2.4 Effects of Online Group Buying Platform Capability

By connecting buyers and sellers through price and discovery, OGB websites are to become the global commerce operating platform to create value by increasing efficiency in their value chains, delivering new customer values, and expanding the market bases (Jeon et al., 2011). Such OGB platforms not only need to provide online shoppers a convenient and safe e-marketplace of good deals all over the world, but also retain and interact with consumers by providing merchants with a suite of products and services, including customizable deal campaigns, secure payment processing capabilities, and online solutions for confidential transactions that also help businesses grow and operate more effectively. A key challenge for OGB platforms is to understand various sorts of customers' needs and develop an all-powerful platform to improve their Web presence, facilitate e-commerce flows (i.e. information-, business-, product- and cash-flows) operation, ensure consumer online privacy and the security of online transactions, and support value creation in the OGB context (Eng, 2008). Thus, e-commerce capability and secure online transaction are two essential dimensions that need to be taking into account for an OGB site to develop a robust platform capability. In this paper, we define platform capability as the ability of an OGB platform's components and mechanisms to provide sufficient capacity to support e-commerce transactions and online transaction security.

For today's picky consumers, if an OGB site is not easy to use and interact with other members, it will project a poor business image over the Internet and weaken the OGB organization's position (Cheng & Huang, 2013). It is therefore important that an OGB organization should be able to make an assessment of the quality of their e-commerce offering, as perceived by their customers and in the context of the industry (Qu et al., 2013). E-commerce capability can be defined as an OGB platform capability to deploy and leverage e-commerce resources to support the e-commerce activities. E-commerce capability of an OGB platform need to provide useful information about the related products and services and can help OGB members to make a direct purchase online, a product catalog is a minimum requirement, facilitate online transactions (Zhu, 2004; Eng, 2008). Besides, it needs to facilitate the synergy between the online and physical channels, improve consumers' social interaction, satisfy customer experience of hedonic consumption and provide value added functionality. The interactive nature of the OGB sites may be assume to benefit OGB members to help them acquire the up-to-date information, facilitate members to communicate with and maintain close interpersonal relationships with other members with shared interests in specific products/services.

Even though e-commerce is spreading worldwide, many consumers are still reluctant to deal with it because of the security and privacy concerns (Ahmed et al., 2007). In considering online privacy,

security, trust, authentication, fraud and risk of money losing might still annoy online shoppers to participate in OGB. It is generally recognized that security measures are extremely important for e-commerce and all e-businesses running on the internet (Johar & Awalluddin, 2011). As well, in the OGB environment, the platform needs to build up a secure e-commerce safeguard to ensure OGB consumer online privacy, deal the payment of products safely, and guarantee the quality and acquisition of the ordered products/services (Wang & Wu, 2014). In this paper, we define secure online transaction as an OGB platform ability to ensure consumers' online privacy and the security of online transactions as well as to guarantee the quality and acquisition of the ordered commodities. Consumers' attitudes towards online transaction processing system, security and privacy of consumer's personal information within OGB sites and trust and reliability of online vendors are presumed to be significantly influencing consumers' confidence to hedonically participate in the OGB context. Based upon the above discussion, we predicted the following hypotheses.

H4: Platform compatibility is positively associated with social capital among OGB members.

H5: Platform compatibility is positively associated with OGB members' hedonic participation.

H6: Platform compatibility is positively associated with OGB members' value creation.

Based on the above discussion, we propose the conceptual model shown in Figure 1.

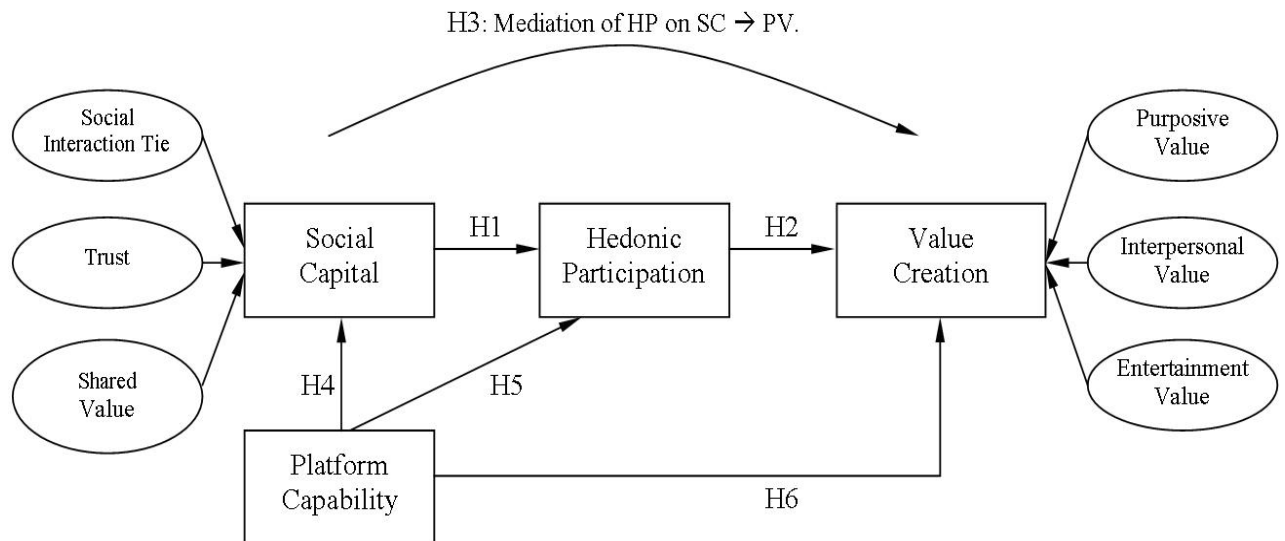


Figure 1. Research Model

3 RESEARCH METHODOLOGY

3.1 Measurement Development

The first stage in this study is to construct a conceptual framework and develop the measures. The starting point for developing measurement items is reviewing previous empirical and theoretical literatures. First, in order to generate a sample of items, as many items as possible were identified from existing scales that fit the construct definitions of the current study. Prior works in IS literature were reviewed by concentrating on social capital, consumer hedonic participation, and platform capability and the issues regarding consumers' value creation in group buying.

Once the initial list of measurement items was generated, an iterative interview process involving personal interviews with a small group of academic and industrial experts was applied to refine the item list. The interviews were taped and reviewed by researchers to further improve the quality of data collection. From this, the researchers could gauge the clarity of the scale items presented, assess whether the items list effectively captured the desired phenomenon, and ensure that the salient

concepts of the major constructs of our research model were not omitted. This process was continued until no further modifications to the measurement items were necessary. Feedbacks from the interview processes served as the basis for correcting, refining, and enhancing the experimental scales. For instance, scale items were eliminated if they represented the same aspects with only slightly different wording and modified if the semantics were ambiguous in order to enhance the psychometric properties of the survey instrument.

After completing the development of the constructs and their related scale items, several small-scale pretests (including personal interviews) were conducted with a small group of respondents to ensure the completeness and appropriateness of the scale items developed. Since there are eight formative sub-constructs included in the three second-order constructs (i.e. social capital, platform capability, and consumer value creation) of the proposed model, the goal is to have a smaller number of items per construct while maintaining sufficient measurement properties. The basic qualitative criterion concerning construct validity and content validity can then be assured in this stage. Content validity implies that the instrument considers all aspects of the construct being measured. It should be determined by specifying the domain of the construct, generating items that exhaust the domain, and subsequently purifying the resulting scale to produce a measure which is content or face valid and reliable. All measures developed in this study were reviewed by a panel of twelve academic and practical experts to ensure content validity through the calculation of content validity ratios on each scale item.

3.2 Sampling and Survey Administration

The proposed research model was tested with data from members of one group-buying site called iHergo. The website of iHergo is a well-known group-buying virtual community in Taiwan. A banner with a hyperlink connecting to our Web survey was posted on the homepage of the iHergo, the most popular OGB site in Taiwan, from January 11 to February 10, 2014 and members of the iHergo with group buying experience were cordially invited to support this survey. Fifty randomly selected respondents were offered an incentive in the form of cash amounting to NTD\$1000. The first page of the questionnaire explained the purpose of this study and ensured the confidentiality. By the time this survey was concluded, 1200 questionnaires were collected. After a strict screening and examining procedure, 537 questionnaires with inconsistent responses or missing values were removed, leaving 663 valid questionnaires (valid-return rate = 55.25%) for further data analyses. The demographic information of the respondents is shown as Table 1.

Variable	Classification	Freq.	%	Variable	Classification	Freq.	%
Gender	Male	223	33.63	Monthly amount on OGB	Less than NTD 100	45	6.79
	Female	440	66.37		NTD 101~500	165	24.89
Age	Less than 18	35	5.28		NTD501~1000	189	28.51
	19-23	111	16.74		NTD1,001~3,000	161	24.28
	24-30	177	26.70		NTD 3,001~5,000	48	7.24
	31-40	197	29.71		NTD5,001~10,000	28	4.22
	41-50	85	12.82		NTD10,001~20,000	21	3.17
	51-60	41	6.18		NTD20,001~30,000	5	0.75
	Above 61	17	2.56		Above NTD 30,001	1	0.15
Experience on OGB	Less than 1 year	128	19.31	Frequency on OGB	At least once per day	18	2.71
	1 – less than 2 years	178	26.85		At least once per week	78	11.76
	2 – less than 3 years	154	23.23		At least once per 2-week	90	13.57
	3 – less than 4 years	92	13.88		At least once per month	177	26.70
	4– less than 5 years	32	4.83		At least once per season	138	20.81
	Above 5 years	79	11.92		At least once per half-year	70	10.56
Monthly income	Less than NTD15000	188	28.36	Consumed in past 1 yr	At least once per year	92	13.88
	NTD15,001~25,000	119	17.95		Yes	617	93.06
	NTD 25,001~35,000	148	22.32		No	46	6.94
	NTD35,001~50,000	136	20.51				
	NTD50,001~75,000	51	7.69				
	NTD75,001~100,000	13	1.96				
	Above NTD100,000	8	1.21				

Table 1. The profile of the respondents (N=663)

4 DATA ANALYSIS AND RESULTS

4.1 Measurement Properties

All the constructs in the conceptual model were modeled as reflective and were measured using multiple indicators. The measurement model relating the scale items to their latent constructs was analyzed by SmartPLS 2.0 M3 (Ringle, Wende, & Will, 2005). The assessment of item loadings, reliability, convergent validity, and discriminant validity was performed for the latent constructs through a CFA. Reflective items should be unidimensional in their representation of the latent variables, and therefore correlated with each other. Factor loadings of scale items should be above 0.707, showing that over half of the variance is captured by the constructs (Chin, 1998; Straub et al., 2004). Also, all constructs in the measurement model should exhibit good internal consistency as evidenced by their composite reliability scores. The composite reliability coefficients of all constructs and the AVE in the proposed conceptual framework were also checked for the adequacy. As shown in Table 2, the loadings for all constructs with reflective measures were well above the 0.7 guideline and statistically significant at the 0.001 level, indicating satisfactory item reliability for the reflective measures. These results collectively suggest good measurement properties for all constructs.

Construct	Dimension	Item#	Scale Item	Mean	Loading
Social Capital (SC)	Social Interaction Tie (SIT)	SIT01	OGB members will maintain close social relationships with some members on the OGB sites.	3.75	0.80
		SIT02	OGB members will spend a lot of time interacting with some members on the OGB sites.	3.41	0.82
		SIT03	OGB members will have frequent communication with some members on the OGB sites.	3.76	0.75
		SIT04	OGB members will know some members on the OGB sites on a personal level.	3.45	0.76
	Trust (TST)	TST01	OGB members will not take advantage of other members even when the opportunity arises.	3.52	0.80
		TST02	OGB members will always keep their promises they make to OGB members.	3.70	0.83
		TST03	The consuming opinions and suggestions provided by OGB members' are trustful or reliable.	3.77	0.78
		TST04	OGB members will act as they say in a consistent manner.	3.63	0.86
		TST05	OGB members are trustful in dealing with consuming of products/services.	3.70	0.85
	Shared Value (SV)	SV01	OGB members would commonly prefer to making the deal appeared to be a bargain.	4.24	0.81
		SV02	OGB members would have the same expectation to get monetary worth as the price they paid.	4.33	0.83
		SV03	OGB members would believe the OGB sites help them discover a new product/service.	4.07	0.83
		SV04	OGB members would believe participating on the OGB sites provided them with an opportunity to be like other OGB members similar to you.	4.02	0.74
Hedonic Participation (HP)		HP01	You will liberally search the information of products/services on the group-buying sites.	4.04	0.79
		HP02	You will cheerfully purchase/consume products/services on the group-buying sites.	4.09	0.78
		HP03	You will pleasantly exchange the information, opinions, experiences, etc. on the OGB sites.	3.86	0.78
		HP04	You will develop an affective friendship with other members on the group-buying sites.	3.78	0.82
		HP05	You will graciously help other members solve the related problems on the OGB sites	3.80	0.77
Value Creation (VC)	Purposive Value (PV)	PV01	You can get products/services information easily through the OGB site.	3.71	0.77
		PV02	You can resolve uncertainties/doubts regarding products/services buying	3.70	0.74
		PV03	You can buy products/services with low price or great discount	4.06	0.77
		PV04	You can get specific products/services that you want	4.05	0.74
	Interpersonal value (IV)	IV01	You can develop friendship with other members.	3.44	0.75
		IV02	You can get sufficient social supports or helps from other OGB members.	3.75	0.82
		IV03	You can gain acceptance and approval of other members.	3.73	0.82
		IV04	You can stay in touch with other OGB members.	3.64	0.82
		IV05	You can impress other OGB members.	4.05	0.81
	Hedonic value (HV)	HV01	You can get hedonic experience from OGB.	3.66	0.82
		HV02	You can enjoy the pleasant and relaxed emotion from OGB.	4.02	0.85
		HV03	When bored, You can pass the time away from OGB.	3.83	0.79
		HV04	The enthusiasm of OGB sites is eyeball catching, it picks you up.	3.76	0.79
Platform Capability (PC)	E-Commerce Capability (EC)	EC01	The OGB platform can help you maintain close social relationships with members.	3.57	0.79
		EC02	The OGB platform can facilitate members on the OGB sites to communicate trustfully.	3.34	0.81
		EC03	The OGB platform can help you acquire the up-to-date information of products/services easily.	3.27	0.76
		EC04	The OGB platform can help you obtain the products/services easily.	3.41	0.72
	Secure e-Transaction (SET)	SET01	The OGB platform can help you deal the payment of products/services conveniently.	3.87	0.74
		SET02	The OGB platform can provide you a secure consuming mechanism.	3.93	0.77
		SET03	The OGB platform can protect my own online privacy.	3.83	0.81
		SET04	The OGB platform can guarantee the quality and acquisition of the ordered products/services.	3.62	0.75

Table 2. Descriptions and confirmatory factor loadings of scale items

Table 3 shows the composite reliability, average variance extracted (AVE) and square root of the AVE, as well as the correlations between the constructs. The composite reliability values for all constructs were above the recommended level of 0.70, indicating adequate internal consistency (Hair et al., 2005). All constructs share more variance with their indicators than with other constructs. Thus, the convergent and discriminant validity of all constructs in the proposed research model can be assured. However, some of the coefficients were relatively high, so the tolerance values and variance inflation factor (VIF) values were further computed to test for any possible problems with multi-collinearity. The analysis results illustrate that multi-collinearity is not a serious issue for the study.

Construct	Sub-construct	SIT	TST	SV	HP	PV	IV	HV	EC	SET
Social Capital	Social Interaction Tie (SIT)	0.78								
	Trust (TST)	0.50	0.82							
	Shared Value (SV)	0.35	0.46	0.81						
Hedonic Participation (HP)		0.50	0.56	0.64	0.79					
Value Creation	Purposive Value (PV)	0.38	0.46	0.49	0.57	0.76				
	Interpersonal value (IV)	0.62	0.48	0.27	0.50	0.47	0.81			
	Hedonic value (HV)	0.44	0.47	0.45	0.60	0.61	0.59	0.81		
Platform Capability	e-Commerce Capability (EC)	0.56	0.56	0.47	0.58	0.60	0.58	0.55	0.77	
	Secure e-Transaction (SET)	0.35	0.48	0.33	0.46	0.57	0.51	0.50	0.50	0.77
Composite Reliability		0.86	0.91	0.88	0.89	0.84	0.91	0.88	0.86	0.85
Average Variance Explained		0.61	0.68	0.65	0.62	0.57	0.66	0.66	0.60	0.59

Table 3. Composite reliability and inter-correlations among major constructs

4.2 Test of the Structural Model

The path coefficients and explained variances for the conceptual model in this study are shown in Figure 2. A boot-strapping procedure with replacement using 500 subsamples was used to estimate the statistical significance of the parameter estimates. The structural model was examined, and the effects among those latent constructs were also tested. A test of the structural model was used to assess if the causal relationships specified by the research model were consistent with the available data. The PLS method does not directly provide significance tests and path coefficient confidence interval estimates in the proposed model. Hypotheses and corollaries testing were performed by examining the size, the sign, and the significance of the path coefficients and the weights of the dimensions of the constructs, respectively. The statistical significance of weights can be used to determine the relative importance of the indicators in forming a latent construct.

As can be seen from Figure 2, the direct and indirect effects from all of the antecedents in the conceptual framework, totally account for 64 percent of the variance in consumers' value creation in OGB. Correspondingly, 53 percent of the variance in hedonic participation, and 46 percent of the variance in social capital were explained by the related antecedent constructs. The magnitude and significance of these path coefficients provides further evidence in support of the nomological validity of the research model. As a whole, the research model has strong explanatory power for the construct of consumers' value creation in OGB. As for the proposed research model, the causal relationship from social capital to hedonic participation, the hypothesis, H1, is strongly supported by the significant path coefficient of 0.55. The result implies that consumers perceived higher levels of social capital will be more hedonically participate in OGB environment. Besides, the hypothesis, H2, effectively drawn from hedonic participation to value creation, is also supported with significant path coefficients of 0.23. Besides, the direct effect drawn from social capital to value creation is also confirmed by the significant path coefficient of 0.18. That is, the social capital construct apparently influence consumer value creation in the OGB environment.

To test the effect of social capital on value creation is mediated by hedonic participation; we followed the mediation tests suggested by Barron and Kenny (1986) and evaluated the mediation by computing the mean and standard deviation of the bootstrap samples from the previous PLS analysis. The analysis result indicated that social capital had a positive and significant effect on hedonic participation ($\beta = 0.55$, $t\text{-value} = 8.98$, $p < 0.01$). Hedonic participation had a positive and significant relationship with value creation ($\beta = 0.23$, $t\text{-value} = 5.53$, $p < 0.01$). Also, we observed a significant

direct effect from social capital to value creation ($\beta = 0.18$, $t\text{-value} = 2.477$, $p < 0.05$). We also performed the Goodman tests to validate the mediation of hedonic participation on the causal effect from social capital to value creation. We found both of the analytical results to be significant (Goodman's $z = 4.40$, $p < 0.01$), suggesting that the relationship between social capital and value creation is partially mediated by hedonic participation and thereby supporting H3. With regard to the platform capability construct, consistent with our hypotheses, with the significant path coefficients of 0.68, 0.23 and 0.49, the analysis results also provide supports for the hypotheses, H4, H5 and H6, effectively drawn from the construct of platform capability to social capital, hedonic participation, and value creation, respectively. That is, consumers' perceptions on the platform capability of OGB sites will positively affect the three major construct of the proposed social capital model for value creation.

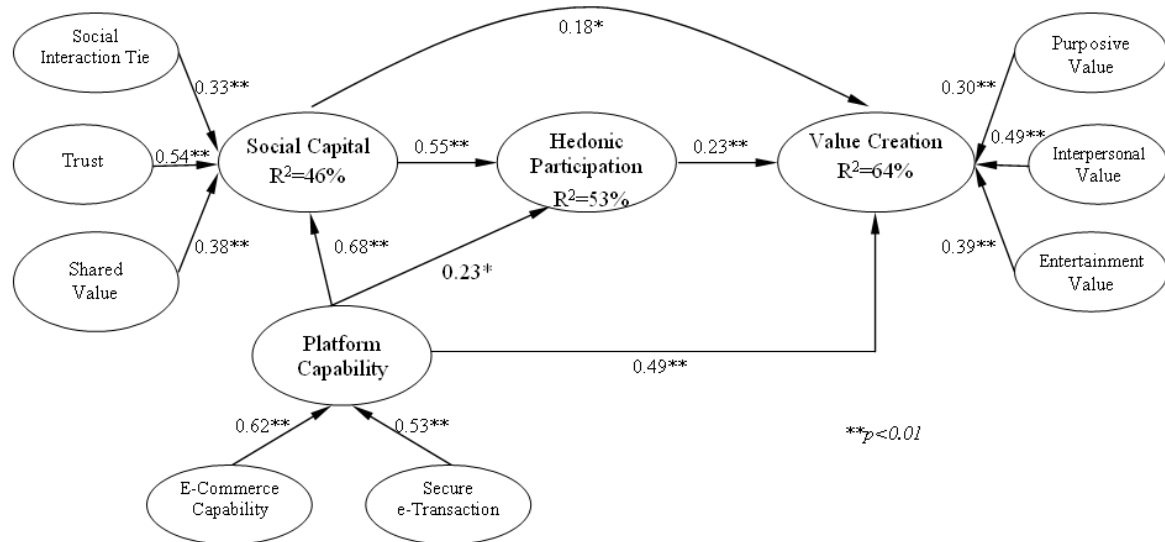


Figure 2. Results of PLS analysis.

5 DISCUSSION AND CONCLUSION

Driven by the prospective market value of online group buying and prevailing social networking sites usage, there will be a growing need to identify what factors are likely to create online consumers' value in order to obtain superior profit, specifically, from the thriving and robust click-and-mortar business models. This study seeks to provide a theoretical model of social capital to investigate the important antecedents of for online group buying consumers hedonic participation and value creation in OGB context. In particular, the main theme is to develop a social capital model in the group buying context and identifies the issue in the context of online group buying by incorporating social capital factors and group buying platform capability with the perspective of consumers' hedonic participation and value creation. These factors are identified as critical factors influencing consumers' hedonic participation and further affecting the value creation of consumers in OGB environment.

Structure model tests indicate that consumer value creation with online group buying is predicted mostly by platform capability, followed by hedonic participation and the related social capital factors, respectively. The social capital factors are the stronger predictors of consumer hedonic participation than platform capability. Also, consumer hedonic participation is confirmed to partially mediate the impact of social capital on consumer value creation. In addition, OGB platform capability is identified and validated to be a critical antecedent that may significantly influence OGB consumer social capitals, hedonic participation and value creation. As depicted in Figure 2, noticeably, all the three sub-constructs have great contributions to OGB consumers' value creation and, which referred to purposive interpersonal and entertainment values being general, but essential benefits for OGB. Additionally, secure e-transaction and e-commerce capability significantly contribute to platform capability and are two critical factors that may influence OGB consumer social capital, hedonic

participation and value creation. Evidently, sound e-commerce capability is more crucial to the evaluation of OGB platform capability while secure e-transaction is also a significant factor influencing consumers' engagement in OGB. Regarding the related social capital dimensions, trust is the most critical factor as perceived by consumers participating in the online buying groups, while shared value and social interaction tie are also significant factors.

In this current study, we started with the theoretical development of SCT and proposed a nomological model to probe the causal relationships among social capital factors, OGB consumer hedonic participation behaviors, platform capability and value creation. We present conceptual development and an empirical validation of consumer value creation in the OGB environment and also provide a number of unique contributions to theoretical and practical advances in the e-commerce area. First, it provides empirical support for a new theoretical framework to identify with the antecedents of the formation of value creation by incorporating three social capital factors which draw upon the SCT. To our knowledge, this is the first study in the IS discipline integrates the social capital perspective with social commerce platform capabilities to explore consumer hedonic participation and value creation in the OGB context. Second, this study gives empirical evidence to suggest that the related SCT factors relevant to predict consumer hedonic participation and value creation in the OGB context. The major contribution of successfully applying the SCT by focusing on social capital, hedonic participation and value creation is promising that it demonstrates that consumer value creation in the OGB environment can be predicted adequately from hedonic participation, which is affected significantly by social capital factors and platform capability. From the social capital aspect, OGB websites need to provide liberally interactive platform capabilities that smooth the progresses of convenient social interaction, trustful transaction and enthusiastic affection/experience sharing. From the aspect of hedonic participation, a successful OGB website should be able to provide novel and value created products/services to entice customers to hedonic prolong website use. Finally, the empirical findings signify that OGB platform capability facilitates the completion of transactions over the Internet where consumers can find, opt for, and confirm transactions for products or services with the cooperation of other known and/or unknown members. Understanding the effects of the related social capital factors enables practitioners to develop OGB platform capability that enhance social interaction ties among OGB shoppers. As well, e-commerce and SET capabilities provided by OGB platform are equally crucial to facilitate online consumers' social capital, hedonic participation and value creation in the OGB context. So as to be successful, e-marketers should increase the values created by their own OGB sites. The design of the OGB website should be such that it provides a featured cyber shopping environment with social interactive, hedonic and secure functionalities to the consumers. These components are essential to attract and retain OGB shoppers.

By extending and elaborating the integrative social capital model, in this study, we proposed a theoretical framework to explore the sophisticated causal relationships among social capital, hedonic participation, platform capability and value creation. However, this study is not without certain limitations, which represent opportunities for further research. First, this study was conducted in Taiwan and is based on a single sample. The usual caveats concerning the use of single informants and self-reported data apply to this study, and therefore, some caution should be applied when generalizing the results with other online consumer groups. Additionally, data from convenient sampling approach and web-survey instrument do not represent entire populations and may limit the generalizability of this study. Further studies might need to expand the boundaries of the analysis to other populations. Second, the user responses in this study are cross-sectional data. Time and resource constraints did not allow the iteration of data collection to observe customer intention over time and determine any long-term effects of the discussed factors. Future research should consider a longitudinal approach to validate and extend the social capital model as proposed in this current research. Finally, the proposed model variables explained a great amount of the variance in OGB customers' value creation. Although such an approach was not adopted in this study, it may also be of interest to use a more fine-grained approach (e.g., using OGB consumers' characteristics, situation-specific variables) in concert with the higher level analysis conducted in this study to examine other demographic influences that were not explored. For example, future research may examine whether perceptions of social interaction ties, trust and shared values of social capitals are interrelated with other critical antecedents to impact on hedonic participation and value creation in OGB.

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